## ABSTRACT

An off-column sample injection scheme for introducing samples into micro-reaction channels in microfabricated devices. In one aspect of the present invention, off-column sample injection is effected by introducing sample from a sample reservoir provided on the substrate of the microfabricated device into a reaction channel via a constricted channel or opening interface, e.g., a narrow connection-channel and/or a pinhole. In another embodiment of the present invention, off-column sample injection is effected by introducing sample from a sample reservoir that is provided outside the substrate of the microfabricated device. A through-hole is provided in the substrate to facilitate sample introduction into the reaction channel. In a further aspect of the present invention, the free-end of a capillary tube connected to the sample-channel is moved alternatively to a sample and an auxiliary solution to bring multiple samples in series to the vicinity of a reaction channel for convenient sample introduction and high-throughput assays.